IN THE CLAIMS

Please amend the claims as follows:

1.(currently amended) A method of determining a Raman gain profile of an optically amplified fiber optic span, said method comprising the steps of:

obtaining a first measured power profile for each of a plurality of system components;

applying one or more Raman pumps to said fiber optic span for providing additional optical amplification thereto;

obtaining a second measured power profile for each of said plurality of system components; and

calculating the Raman gain profile for the system components based on the difference in the measured power profiles.

2.(canceled)

3.(previously presented) A method according to claim 1 wherein power settings for the Raman pump are calculated relative to a loss profile of a fiber optic span measured under non traffic-carrying conditions in order to achieve a specified Raman gain profile.

4.(previously presented) A method according to claim 1 wherein said steps of obtaining said measured power profiles for each of said plurality of system components include measuring: an originating profile at an output of a transmit amplifier, a loss profile of a fiber optic span, and an incident profile at an input of a receive amplifier.

5.(previously presented) A method according to claim 4 wherein if the incident profile changes, and it is known that the originating profile remains unchanged and the output power monitor conditions remain unchanged on the Raman pumps, it is determined that changes in the measured power profiles have occurred along the fiber optic span.

6.(previously presented) A method according to claim 21 wherein the step of transmitting any change in said power profile comprises conveying basic information over an overhead channel.

7.(previously presented) A method according to claim 21 wherein the step of transmitting any change in said power profile is performed when the magnitude of the change is outside limits defined by a tolerance band.

8.(previously presented) A method according to claim 1 wherein said step of obtaining said measured power profile for each of said plurality of system components includes measuring: an originating profile at an output of a transmit amplifier, a loss profile of a fiber optic span, and an incident profile at an input of a receive amplifier.

9.(previously presented) A method according to claim 22 wherein the step of transmitting any change in said power profile comprises conveying a status update on a regular basis from the transmit amplifier.

10.(previously presented) A method according to claim 22 wherein said step of recalculating the Raman gain profile comprises summing updated values of the incident profile and the loss profile, and subtracting therefrom the originating profile.

11.(previously presented) A method according to claim 22 wherein said step of recalculating the Raman gain profile is performed at said receive amplifier.

12.(currently amended) A system for determining a Raman gain profile of an optically amplified fiber optic span, said system comprising:

a plurality of optical spectrum analyzers for measuring first and second power profiles of said fiber optic span and of a plurality of system components, said first power profile[s] being measured before application of one or more Raman pumps to said fiber optic span, and said second power profile[s] being measured after application of said one or more Raman pumps, so as to determine the existence of a loss or a gain therein;

means for receiving the measured power profiles from the optical spectrum analyzers; and

means for calculating the Raman gain profile for the system components based on the difference in the measured power profiles.

13.(original) A system according to claim 12 further comprising an overhead channel for conveying the changes in the measured power profiles.

14.(original) A system according to claim 12 further comprising a display means for displaying the result of said calculation.

15.(original) A system according to claim 12 wherein the means for receiving comprises a processor.

16.(previously presented) A system according to claim 12 wherein the means for calculating comprises a processor.

17.(original) A system according to claim 12 wherein the means for receiving and the means for dynamically calculating are integral with one another.

18.(original) A system according to claim 12 wherein said system components include a transmit amplifier and a receive amplifier.

19.(original) A system according to claim 18 wherein said means for receiving and said receive amplifier are integral with one another.

20.(previously presented) A system according to claim 18 wherein said means for receiving, said means for dynamically calculating, and said receive amplifier are all integral with one another.

21.(previously presented) A method according to claim 1 further comprising the steps of:

continually monitoring power profiles of each of said plurality of system components after application of said one or more Raman pumps;

transmitting any change in said power profiles to a central location; and

recalculating, in real-time, the Raman gain profile following such change.

22.(previously presented) A method according to claim 21 wherein said step of measuring a power profile for each of a plurality of system components includes measuring: an originating profile at an output of a transmit amplifier, a loss profile of a fiber optic span, and an incident profile at an input of a receive amplifier.